$$\left\langle w_{tot}\left(x=0,t\right)\right\rangle_t \equiv \left\langle w_{potl}\left(x=0\right)\right\rangle_t + \left\langle w_{kin}\left(x=0\right)\right\rangle_t$$
$$= \frac{1}{2}\frac{|\tilde{A}|^2}{\rho_o c^2}\left[1+\cancel{\cos\Delta\varphi_{BA}^o}\right] + \frac{1}{2}\frac{|\tilde{A}|^2}{\rho_o c^2}\left[1-\cancel{\cos\Delta\varphi_{BA}^o}\right] = \frac{|\tilde{A}|^2}{\rho_o c^2} = \frac{|\tilde{A}|^2}{z_o c}$$

When: $\Delta\varphi_{BA} = 0, \pm 2\pi, \pm 4\pi, \pm 6\pi, ... = \pm n_{even}\pi$ the energy density is all ***potential*** energy density:

$$\left\langle w_{potl}\left(x=0,t\right)\right\rangle_t = \frac{1}{2}\frac{\left\langle p_{tot}^2\left(x=0,t\right)\right\rangle_t}{\rho_o c^2} = \frac{1}{2}\frac{|\tilde{A}|^2}{\rho_o c^2}\left[1+\cos\left(\pm n_{even}\pi\right)\right] = \frac{|\tilde{A}|^2}{\rho_o c^2}$$
$$\left\langle w_{kin}\left(x=0,t\right)\right\rangle_t = \frac{1}{2}\rho_o\left\langle u_{tot}^{\parallel 2}\left(x=0,t\right)\right\rangle_t = \frac{1}{2}\frac{|\tilde{A}|^2}{\rho_o c^2}\left[1-\cos\left(\pm n_{even}\pi\right)\right] = 0$$
$$\left\langle w_{tot}\left(x=0,t\right)\right\rangle_t \equiv \left\langle w_{potl}\left(x=0,t\right)\right\rangle_t + \left\langle w_{kin}\left(x=0,t\right)\right\rangle_t = \frac{|\tilde{A}|^2}{\rho_o c^2} + 0 = \frac{|\tilde{A}|^2}{\rho_o c^2} = \frac{|\tilde{A}|^2}{z_o c}$$

When: $\Delta\varphi_{AB} = \pm 1\pi, \pm 3\pi, \pm 5\pi, ... = \pm n_{odd}\pi$ the energy density is all ***kinetic*** energy density:

$$\left\langle w_{potl}\left(x=0,t\right)\right\rangle_t = \frac{1}{2}\frac{\left\langle p_{tot}^2\left(x=0,t\right)\right\rangle_t}{\rho_o c^2} = \frac{1}{2}\frac{|\tilde{A}|^2}{\rho_o c^2}\left[1+\cos\left(\pm n_{odd}\pi\right)\right] = 0$$
$$\left\langle w_{kin}\left(x=0,t\right)\right\rangle_t = \frac{1}{2}\rho_o\left\langle u_{tot}^{\parallel 2}\left(x=0,t\right)\right\rangle_t = \frac{1}{2}\frac{|\tilde{A}|^2}{\rho_o c^2}\left[1-\cos\left(\pm n_{odd}\pi\right)\right] = \frac{|\tilde{A}|^2}{\rho_o c^2}$$
$$\left\langle w_{tot}\left(x=0,t\right)\right\rangle_t \equiv \left\langle w_{potl}\left(x=0\right)\right\rangle_t + \left\langle w_{kin}\left(x=0\right)\right\rangle_t = 0 + \frac{|\tilde{A}|^2}{\rho_o c^2} = \frac{|\tilde{A}|^2}{\rho_o c^2} = \frac{|\tilde{A}|^2}{z_o c}$$

We coded up the above acoustic expressions in Matlab to obtain plots of them *vs*. dimensionless position, $\theta = kx$ for various values of $0 \le |\tilde{R}| \le 1$ for two counter-propagating 1-D monochromatic traveling plane waves and posted a write-up along with the Matlab *.m script on the Physics 406 Software web-page: http://courses.physics.illinois.edu/phys406/406pom_sw.html